November 2, 2015

The Honorable Gina McCarthy
Administrator – Environmental Protection Agency
William Jefferson Clinton Federal Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

But I'll know my song well before I start singin' - Dylan

Dear Administrator McCarthy,

Having recently retired from Montana Department of Environmental Quality, I am now compelled to write to you as a private citizen about my overwhelming frustration and concern with EPA management of the Butte Priority Soils Operable Unit, a very large and complex subunit of the Silver Bow Creek/Butte Area Superfund Site. The current rush toward a consent decree is premature and if completed too soon, it will leave one very large question unanswered — will the remedy protect the environment?

My greatest concern is that the remedy, as defined by the 2006 Record of Decision and as managed by EPA's Helena office, jeopardizes the long-term viability of the recently restored Silver Bow Creek. The State has spent roughly $138 M on that cleanup.

My second overarching concern is that the remedy, as it is currently framed, and under the vagaries of current and future non-CERCLA environmental regulation, will pass on to the community of Butte a good portion of the long-term liability for widespread mining impacts.

Butte-Silver Bow County Government is the community's representative and has had a seat at consent decree negotiations, but they have had little to no presence at technical discussions. It's in the technical arena, however, that the remedy is defined. And unlike the major settling defendant, BP (BP purchased Atlantic Richfield Company in 1999), or EPA as lead agency, the County has not been afforded the technical resources to effectively participate and represent the public interest in those technical discussions.

Because the consent decree is cloaked in court ordered confidentiality, the community that will live with remedy decisions forever is likely being excluded from critical discussions until the consent decree is lodged with a federal judge. At that point, there will be little opportunity for the public to affect the final remedy.

I find it disquieting that the cost for the remedy and liability for mine waste left in place will be set in stone once the consent decree is lodged with the court. At that point, faced with an overwhelming mountain of highly technical documentation, it will be impossible to argue for

amending or revising the final remedy. After the ink dries on the consent decree, the public will just have to "live with it."

In the case of Priority Soils, there will be major changes to the ROD: that is why the EPA must be transparent with the public about those changes, and must be held accountable to the public for those changes long before they are finalized.

I ask that a higher authority than EPA's Helena office now thoroughly review the post-ROD management of the Operable Unit and assign a well-seasoned project manager from outside of the Montana office before consent decree negotiations progress too far.

It would be instructive for you to read *Remove the Dam, Restore the River — How Public Participation Redefined Superfund Law at Milltown, Montana* in the Autumn 2015 issue of Montana, the Magazine of Western History. The Milltown Site is genetically connected to Butte by the Clark Fork watershed. Butte is the headwaters and Milltown is the downstream end of the 120-mile Superfund Complex. In an ironic twist of cleanup logic, Milltown is complete while Butte suffers from an incomplete remedy that still depends on multiple contingencies. And now the fine people of Butte are asking EPA to do their job of protecting the environment.

In light of the rapidly growing public outcry in Butte (see attached Montana Standard Editorial - *Force the federal government to do its job*), I recommend that Headquarters and Region 8 review and seriously consider the direction the EPA will take for three central issues:

1. The Parrot Tailings and managing ground water for the long term
2. Mine waste in Butte's sewage treatment system
3. Stormwater management program and mine waste dump reclamation

The remedy to date has profoundly reduced the metal concentrations that once rendered Silver Bow Creek a completely dead waterway. But as my good friend and mentor John Pantano often said, "You need to get the screaming child out of the room before you can deal with the rest of the children in the room." Only recently have we reached the point of seeing what the other little rascals are up to. We can now understand the subtler but still critical environmental problems. And only now are we able to finally define final practicable remedy measures.

1. THE ONGOING BATTLE OVER GROUND WATER AND THE PARROT TAILINGS

For good reason, the Parrot Tailings are front and center in the public mind. At over one million parts per billion, the ground water concentrations that result from copper leaching from these turn-of-the-last-century mill-smelter wastes are exceptional and without equal. And the cadmium levels are nearly one-thousand times higher than EPA's drinking water standard. And it's not just the public that's concerned. The State and a technically savvy public (see attached *Cut and Run Report*, PEER 2005) have been locked in a battle with EPA over how to deal with these wastes and the resulting contaminant plume since the late 1990s. In fact, in 1998 Region 8 was also in the same alignment (see attached Wireman and Breeden Memorandum). But EPA

Montana did not heed those recommendations. Consequently, your agency has been at odds with State and local scientists, choosing to align with BP instead.

It should be clear that the State drew a line in the sand when DEQ Director Richard Opper wrote a letter of partial concurrence that is attached to the ROD. Specifically, he wrote:

> *DEQ does not agree with all the decisions made by EPA or all the statements and opinions expressed in the ROD. The areas of disagreement between our agencies have been extensively documented in previous State comments and won't be reiterated here. However, as you know, DEQ does not concur with the overarching decision to leave accessible, major sources of groundwater contamination in place. We refer specifically to the Parrot Tailings, Diggings East Tailings and the North Side Tailings. Our concern is that leaving these wastes in place poses a significant and permanent threat to groundwater and to the long-term water quality in Silver Bow Creek.*
>
> *EPA's remedy decision relies upon capturing and treating highly contaminated ground water in perpetuity to protect Silver Bow Creek. However, the State believes that significantly more weight should have been given to Metro Storm Drain Alternative 5b, which called for the removal of the major sources of groundwater contamination, as the State in fact did at the Silver Bow Creek/Butte Area NPL site. The State believes that such removal would substantially reduce toxicity, mobility, and volume of groundwater contamination and greatly increase the permanence and long-term effectiveness of the remedy for this highly contaminated groundwater area. With the degree of uncertainty surrounding the question of whether the aquifer would clean up in a reasonable period of time following waste removal, the State believes the more protective approach of removing the major sources of contamination would be the appropriate action.*

Despite large improvements in stream water quality that can be attributed to the ground water capture and treatment system and despite additional ground water studies since the ROD, a vast margin of uncertainty still surrounds the effectiveness of the capture and treat remedy and its ability to protect Silver Bow Creek over the long term.

Without question, the Parrot Tailings are the source of extreme levels of contamination in a deeper portion of the aquifer known as—the Middle Alluvial Unit. Post-ROD studies have demonstrated that the MAU is a major conduit for ground water flow and the spread of the contaminant plume. Ongoing, and very heated, scientific debate centers on two questions. Is the Parrot Plume, particularly in the MAU, still expanding? And is the sub-drain capture system effectively capturing all contaminated ground water?

In trying to bully their way through the ongoing disagreement, the EPA has refused to collaborate with the State. They have imposed unrealistic deadlines for input on an extremely voluminous and complex set of technical documents from Atlantic Richfield. EPA has further aggravated the injured relationship with the State, by refusing to even consider capping wastes that the State considers Principal Threat Wastes. After all, the ROD specified that *to reduce the loading of metals to groundwater in the area overlying the Parrott Tailings (e.g., the ball fields*

and BSB County Shops), infiltration barriers shall be considered during remedial design and implemented if determined to be appropriate by EPA, in consultation with DEQ.

On the issue of infiltration barriers, it would be instructive for EPA to thoroughly review the Atlantic Richfield study, *BPSOU Final Technical Memorandum: Percolation Evaluation for Upper MSD Buried Tailings, Diggings East Tailings and Northside Tailings Areas* (June 2015), and examine State comments to the draft Memorandum. It is clear that BP's conclusion — that infiltration barriers would only reduce flow to the ground water capture system by a negligible amount and barriers are therefore not cost effective — is a red herring. Their conclusion is irrelevant; it ignores State concern with the Middle Alluvial Unit and the long-term threat to Silver Bow Creek. If EPA is unwilling to reconsider removing the Parrot, they must require capping with the best available technology to address State and public concerns.

The public rallying cry *Remove the Parrot and Restore Silver Bow Creek* now has the Governor's attention — he has committed State dollars in order to get the right thing done.

EPA too should pay attention!

2. BUTTE'S SEWAGE TREATMENT PLANT — WILL THE COMMUNITY PAY FOR A WASTE-IN-PLACE REMEDY?

Even more appalling than their unbending stance on the Parrot ground water plume — the EPA is apparently leaving responsibility and liability for high levels of copper passing through Butte's sewage treatment plant with the community. That copper is almost certainly the result of the mine waste that remains in place and should be BP's responsibility. EPA's own analysis, presented in the *2008 Surface Water Characterization Report*, stated that Butte's sewage treatment plant was the largest surface water tributary source of total recoverable copper within Priority Soils and that the sources of copper were:

- *Ordinary municipal waste sources including copper piping*
- *Inflow of contaminated ground water to the sewage system*
- *Deteriorated infrastructure allowing contact of sewage with mine waste*
- *Elevated levels of copper in the urban environment due to mine waste*

The EPA went on to state that the *Agencies will require an evaluation of whether the copper concentrations seen in the effluent are typical for municipalities or if they are associated with contaminated ground water infiltrating the sewer system or other mining-related sources.* That evaluation was never undertaken. And, the requirement set by the 2007 *Interim Surface Water Monitoring Plan* to sample metals at the plant outfall was inexplicably discontinued after 2009.

Instead, the EPA appears to have contrived to favor BP at local government and Butte ratepayers' expense. It is easy to infer from Public Information Bulletin No. 20, *Storm Water Off*

the Butte Hill (EPA's, March 2, 2014)], that EPA intends to redefine the monitoring location in Silver Bow Creek where BP will have to prove that they are meeting water quality standards. That location is called a point of compliance. EPA specified five points-of-compliance in the ROD, but the ROD will likely be modified under the consent decree, ultimately naming only one station as the point of compliance. The selection is likely between the two downstream-most stations specified in the ROD. One station is located upstream of the treated sewage outfall and the other located downstream of the outfall and at the Operable Unit boundary. EPA Bulletin 20, focuses on copper concentrations at the upstream station, strongly inferring EPA's preference favoring BP.

3. STORM WATER STILL MAKES SILVER BOW CREEK TOXIC TO FISH

It is unacceptable that ten years after the ROD, when it rains or snow melts in Butte, Silver Bow Creek commonly exceeds the federal acute aquatic life standard for copper by a factor of more than two, and on occasion by more than five times (See attached editorial *Butte Stormwater: Why won't EPA follow its own advice?*)

The stormwater management program has been failing, in large part, because EPA has not adhered to its own ROD requirements and has failed to adequately oversee its own program. The ROD describes a stormwater management program that is iterative and adaptive in principal and should have been effective if properly managed. It was to be a program consisting of:

1. Annual monitoring and reporting the data
2. Annual analysis to determine if the stream is meeting acute water quality standards and if not, to identify the main sources of ongoing contamination
3. Annual evaluation of additional remedy measures

As for annual reporting, data reports for 2008 through 2012 were not submitted until this year and it has been nearly impossible for the State to get a thorough and reliable surface water dataset from BP.

To date, EPA has only completed one analysis, the *2008 Surface Water Characterization Report*.

And for some unexplained reason the EPA has refused to follow their own recommendation from the 2008 Report, that *detention/retention basins need to be installed at the base of Buffalo Gulch and the MSD sub-drainages as soon as possible*. The effectiveness and need for extensive retention basins figures prominently in the State's analysis as presented in the *BPSOU Stormwater Best Management Practices Memorandum* (MDEQ, April 2015). BP should be required to remove the mine wastes from the Northside Tailings, Diggings East and the Demonstration Wetlands area and use those large, undeveloped areas to maximize stormwater retention to a practicable extent.

In addition to providing a sound scientific basis for the need for an expansive system of retention basins, the State's Memorandum highlights the failings of the EPA reclamation management

program. In fact, it can be said that when it comes to a reclamation program – *there is no there there*.

The reclamation program, which is indeed a substantial part of effectively managing stormwater, has suffered from a lack of adaptive management and lack of oversight by plant and reclamation professionals. The majority of reclamation was done as Time Critical Removal Actions and was not intended as the final action. Every completed TCRA site should have been evaluated using the Butte Reclamation Evaluation System to determine if the site was operational and functional and ready for long-term operations and maintenance. EPA entirely missed that step. And a long-term reclamation management plan is not even in the works. Adding insult to injury, EPA has blamed Butte-Silver Bow County government for the reclamation program failings. If you were to examine the Anderson Shaft Site, it would be obvious that the fault lies with EPA mismanagement not with local government.

A major deficiency in the stormwater management strategy, one that has yet to be recognized or discussed, but one that should be recognized before consent decree negotiations are truly under way — identifying and addressing, to the extent practicable, the source of metals coming from upstream. Water quality at the most upstream monitoring station, located more than a mile upstream of the site boundary, typically exceeds both federal and state acute water quality standard. In the ROD, EPA gave BP a free pass when they framed the remedy strategy as:

> *If water quality standards are exceeded upstream, flow weighted concentrations of COCs at the upstream station will be subtracted from concentrations measured at the compliance monitoring stations to determine compliance.*

In normal environmental evaluations, that upstream site would represent background water quality, and the strategy would be valid. But that is not the case in Butte. It ignores Butte's history of not only mining but also of smelting. The ROD failed to recognize the wide-spread and lingering affect that smoke from 10 local smelters and possibly the Anaconda Smelter is having on stormwater in the greater Summit Valley and well outside of the site boundary.

In the period after the ROD, EPA did recognize smelter smoke as a problem when they expanded the boundary for the attic dust sampling and abatement program in the 2011 Unilateral Administrative Order. EPA now needs to apply the same logic to stormwater management. If not, then the responsibility and liability will fall to Butte-Silver Bow County Government under their MS4 municipal stormwater management program. And the community's liability will remain forever with the community's ratepayers.

One additional stormwater problem that must be recognized and addressed by EPA — the sewage treatment plant discharge is impacted by runoff events. A Montana Fish, Wildlife and Parks caged fish study (FWP, April 2008) demonstrated that even a small rain event can cause a lethal increase in copper downstream of the sewage treatment plant outfall. The rainfall event killed all the caged fish below the outfall, while all fish above the outfall lived.

BUTTE PRIORITY SOILS — THE CERCLA PROCESS NEEDS FIXING: ANALOGUES FROM MILLTOWN AND ANACONDA

When reviewing Butte Priority Soils, please consider this – why has this single Operable Unit, of all the many operable units of the Clark Fork Superfund Mega-Complex seen so much discord? Why not Butte Mine Flooding, Anaconda Regional Water Waste and Soils, Mill Town Reservoir Sediments or Silver Bow Creek Streamside Tailings? Having worked on the Butte and Anaconda Sites as a hydrogeologist since 1990 - I will give you an insider's view.

It is instructive to examine, by comparison, the Mill Town Reservoir Sediments Site — a monumental environmental undertaking to be sure. It was no small feat to remove a dam, excavate over two million cubic yards of contaminated sediment from the Clark Fork and transport them 90 miles to the BP/ARCO Waste Repository in the Anaconda Regional Water Waste and Soils Operable Unit. And to top it off – the Clark Fork channel and floodplain, at its confluence with the Blackfoot River, were rebuilt and restored to a natural state. It took the strong leadership of John Wardell, EPA Montana Administrator, and the team building management style of Russ Forba, EPA project manager, to forge a successful working relationship between EPA, Montana Department of Environmental Quality, the Natural Resource Damage Program, BP and the communities of Missoula and Milltown. It was a matter of building trust amongst the stakeholders. It is a world class project that have made EPA and Montana justifiably proud.

So why has the Operable Unit at the other end of the basin, where 30,000 people live right in the site, been tied in knots for years? Why has EPA failed right at the headwaters source of the Clark Fork Superfund Mega-Complex — where highly contaminated stormwater continues to flow downstream and contaminate the recently completed $138 M Silver Bow Creek clean up?

Because in Butte — EPA has chosen to be insular and argumentative.

Instead of building trust amongst the stakeholders, EPA management has established an atmosphere of hostility, fear and distrust. BP has exploited that divisiveness — fighting EPA and the State when they disagree, but allying with EPA against the State when it suits their purpose. Of course both Agencies must be cost conscious, but not at the expense of defining a cost-effective, practicable remedy for now and the future.

RECOMMENDATIONS FOR SUCCESSFUL CONSENT DECREE NEGOTIATIONS

EPA should learn from their greatest success in Butte — the BPSOU Residential Metals Abatement Program and the recently completed Public Health Study, Phase I.

The Residential Metals Abatement Program, which is widely regarded as effective, owes its success to building on the lessons learned from the earlier Lead Abatement Program and a spirit of collaboration between all stakeholders, including the general public.

The public had an ongoing concern that attic dust was not only a problem within the Operable Unit but was likely a valley wide problem. The community also expressed the need for ongoing health studies.

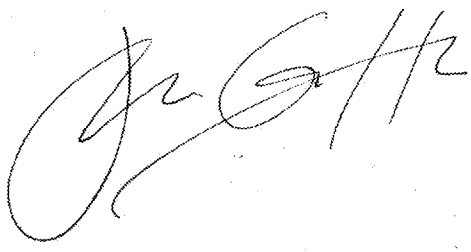
The 2011 Unilateral Administrative Order, understanding that contaminated attic dust was derived from local Butte smelters and likely the Anaconda Smelter, expanded the attic dust sampling and abatement program beyond the Operable Unit boundary to include the entire Summit Valley.

The 2014 *Public Health Study*, conducted primarily by ENVIRON International Corporation, was completed by a rather diverse workgroup including the local health department, Agency for Toxic Substance and Disease Registry, Montana DEQ, Montana Department of Health and Human Services, local independent health and environmental specialists that were independent of Superfund and most significantly Dr. Steve Ackerlund, a risk communications expert and technical consultant for Citizens Technical Environmental Committee, the local TAG group.

At this point in the Butte Superfund process, building a sense of trust and cooperation spirit won't happen overnight. Don't expect a CD with an acceptable and effective remedy in 2016. At least one that truly protects the environment, one that will place responsibility where it belongs, and one that will not leave a permanent drag on Butte's economic vitality. Montana will be relying on that vitality and Butte's sense of stewardship to protect the upper portion of the Clark Fork Watershed.

A CD is not out of reach — but it will take real leadership, management skills and establishing collaborative workgroups with the appropriate technical specialists. Does EPA have another John Wardell or Russ Forba at hand?

Sincerely,



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Attachments:

CC: Shaun McGrath, EPA
Bill Murray, EPA
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Governor Steve Bullock
Senator Jon Tester
Chief Executive Matt Vincent for Butte-Silver Bow County
Cindy Shaw for Butte-Silver Bow Council of Commissioners
William Joyce for Butte Superfund Advisory and Redevelopment Trust Authority
Mary Price for Confederated Salish-Kootenai Tribes
Chief Executive Connie Daniels for Anaconda-Deer Lodge County
David McCumber
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Dave Williams for CTEC
Northey Trethway for Restore Our Creek Coalition
Christine Brick for Clark Fork Coalition